leaves, strongly ascending mostly naked peduncles and somewhat larger and often bluish corollas; but especially by the calyx and capsule. Measurements of all the specimens in the Gray Herbarium and the herbarium of the New England Botanical Club give the following results.

C. aparinoides: naked portion of peduncle 0.3–3.5 cm. long; flowering calyx 1.3–3.8 mm. long, its lobes 0.7–2 mm. long; capsule 1.2–2 mm. long.

C. uliginosa: naked peduncle 1–6 cm. long; flowering calyx (3–)4–6.7 mm. long, its lobes 2–4 mm. long; capsule 3.2–5 mm. long.

Bidens discoidea (T. & G.) Britton. Characteristic of swales, inundated shores and alluvium from Oswego County to St. Lawrence County.

These stations apparently connect with those on Lake Champlain, Vermont[1] and in the Ottawa valley.[2]

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# FOMES ROSEUS (A. & S.) CKE. AND TRAMETES SUBROSEA NOM. NOVUM.

James R. Weir.

The conflicting statements in the literature concerning the identity of *Fomes roseus* and the fungus commonly called "*Trametes carnea* Nees" have led to confusion in the minds of students and investigators engaged in the practice of forestry and in the preservation of structural timbers. This confusion is apparently due to a limited experience of the authors in studying the species in the field and superficial examination of the structure and appearance of the organism. For example, the insistence that "*T. carnea*" is an annual plant (15), that *Fomes roseus* may be distinguished by its ungulate form and stratified tubes (14), that the context color is the same in both species (15), and that one is a form or variety of the other are some of the statements published over and over again, none of which can be substantiated in fact.

It is the purpose of this paper to point out some characters which definitely establish the entity of each of the species, to furnish a

[1] Blake, Rhodora xvi. 40 (1914).

[2] Rivière-aux-Moustiques, near Ottawa, Ontario, *Rolland*, no. 8197, distributed as *B. frondosa*.

means by which they may be readily recognized in the field, and to offer a logical change in the use of names to distinguish them.

## History.

In order to show that the name *Polyporus carneus,* as originally applied, has nothing to do with the American species, the rather confused history of the misreference is necessary.

In 1826, Blume and Nees von Esenbeck published a new species from Java, as follows:

"*Polyporus* (*Apus*) *carneus*—P. suberosus, durus, pileis effusis imbricatis rugosis carneis, poris minutis concoloribus. (Locus in Systemate mycologico inter Polyporos Apodes perennes post *P. roseum* Alb. et Schw., nostro affinem speciem.)

*Descriptio.*

Pilei longitudinaliter effusi, imbricati, rarius solitarii, tres vel quatuor uncias longi, unciam et sesquiunciam lati, duas vel tres lineas crassi, tuberculato-rugosi et obsolete zonati, glabri, extus intusque carnei. Pori minuti, tamen nudo oculo conspiciendi, subrotundi marginibus subacutis, concolores. Color incarnatus siccitate expallescit, humiditate contra in rubedinem transit. Substantia suberosa, dura, sicca. Contextus floccosus. Asci tenues, irregulares, filiformes, pellucidi. Sporae desiderantur.

Patria: *Iava* insula, ad truncos (*Blume*)."

Fries (12) listed and described the species under this name in 1838, referred to the original place of publication and emphasized the characters "*glabro azono carneo.*" In 1874, Fries (13) confused the Javanese plant with the American species and again referred to the characters "*glabro azono carneo.*" The American species is not glabrous or azonate.

Berkeley (1) in 1847 described a new species from Ceylon, as follows:

"P. (Anodermei) *rubidus*, n. sp.; roseo-gilvus; pileo tenui coriceo subreniformi sulcato-zonato inequabili pulverulento sericeo; contextu concolori; poris minimis brevibus punctiformibus. Gardn. 96.

Point de Galle, Ceylon. On fallen trees in woods. Dec. 1844.

Pilei 2 inches or more broad, 1½ inch long, laterally confluent, subreniform or subflabelliform, thin, coriaceous of a delicate rosy grey, uneven, sulcate or zoned, clothed with delicate mealy pubescence.

Substance coloured like the pileus.

Pores rosy grey, very minute, but visible to the naked eye, punctiform.

A very elegant species, resembling in colour *P. Feei* and *P. carneus*, but without any distinct cuticle.

*P. carneus*, too, is described as glabrous, which is not the case with the present species, which I should otherwise have been inclined to think a well developed form of the Java fungus."

Although the original material of Blume and Nees has not been examined by any mycologist of the present generation, there is no

reason to believe that Berkeley's species from Ceylon is different from the Javanese plant. Material of *Polyporus rubidus* has been examined from Ceylon, Java, the Philippines, and Australia, and it agrees with the description of *P. carneus* and appearance and color of Nees' figure. The species is entirely distinct from the American plant, in color, being a pale rose or pink, becoming whitish with age. It also differs in the shape and size of the spores, in the character of the pileus, which may be either glabrous or pubescent, according to age and in the character of its decay. The species is not known to occur on coniferous wood. The plant falls in with the much named group represented by *P. confundens* Ces., *P. modestus* Kunz., *P. brachypus* Lev., and *P. atypus* Lev. Bresadola (6, 7) refers collections from Java and the Philippines to *Polyporus carneus* Bl. et Nees and states (8) that *P. carneus* of English and American authors is *Fomes Palliseri* Berk. from British North America. He is of the belief that *Polyporus rubidus* Berk. and *P. carneus* Bl. et Nees are identical.

Berkeley (2) in 1872 refers collections from the United States to "*Polyporus* (*Placodermei*) *carneus* Fr." These collections are Rav. Fung. Car. Fasc. 5, No. 14; No. 1160, Car. Inf. Curtis 3462; New York, Sartwell. All of these collections are typical of the common American plant and have nothing to do with the Javanese species.

There are two specimens in the Kew Herbarium, both examined by the writer, labeled as follows: "*P. Palliseri* Berk. Palliser's Brit. N. Am. (Saskatchewan) Expl. Expd. Col. E. Bourgeau 1857–8, and *T. arcticus* Carleton, Brit. Amer. 1858. Berkeley did not publish these names. The two specimens are identical and typical of the Carolina material which Berkeley later referred to *Polyporus carneus* Fr.

The name "*Polyporus Palliseri* Berk. in Herb. Berk." was published by Cooke (9) in 1881. The material on which this name is based is an entirely different species, the type locality being Victoria and Queensland (see Kew Herb. Sheet no. 5520). Cooke describes the context as *carne albo*. This species which had already been described by Berkeley (3) under the name *Trametes cingulata* and *T. picta* (4) is common through Oceanica and parts of Africa and is not known to occur on coniferous wood.

Cooke (10) in 1885 under the section *contextu rhabarbarino v. ferrugineo* lists *Polyporus Palliseri* Berk. in Herb. Berk. no. 2562 of

British North America under Fomes, but without description, giving as a synonym *Trametes arcticus* Berk. no. 3044. It is not unlikely that Berkeley also had unpublished material from Australia under the name of *Polyporus Palliseri* which Cooke used for his Australian species, consequently the above is the first time Berkeley's herbarium names, properly identified as to material, were published. No description accompanied the publication of the names and they may, therefore, be disregarded.

Cooke (11) apparently seeing his error in his first use of the name *P. Palliseri*, either being ignorant of or wilfully disregarding Berkeley's older name (*T. cingulata*), republished the Australian species in 1886 under the name "*Polyporus argentatus*" (= "*P. Palliseri* non Berk.") with exactly the same description as he had previously employed for *P. Palliseri*.

Saccardo, under *Fomes Palliseri* Berk., copied Cooke's original description, word for word, and uses exactly the same description for *Polyporus argentatus* Cke.

Bresadola (8) has adopted the name *Polyporus* (*Fomes*) *Palliseri* Berk. to represent the American and North European species referred by authors to "*P. carneus* Nees." This seems objectionable. The confusion over the name, although *P. Palliseri* of Cooke is a synonym of *T. cingulata* Berk., and the fact that it is desirable to refer both the Australian and American species to *Trametes*, makes it seem more desirable to disregard Berkeley's herbarium name.

*Trametes arcticus* Berk. in herb., though based on an authentic specimen and of the same species and possibly of the same collection, would be confused with *Polyporus arcticus* Fr. (Epicr. 479). Although the latter species is a *Polystictus*, as compiled by Saccardo, and may not be distinct from the darker-pored form of *Polystictus zonatus* Fr., there is still opportunity for confusion. Lloyd suggested (Letter 39, note 25) that the plant on which Berkeley based his name *Polyporus rubidus* (Ceylon) be accepted in the sense of *Polyporus carneus* Bl. et Nees of Java. He later proposes calling the American plant *Polyporus carneus* and the Javanese plant *Polyporus rubidus* as a way out of the difficulty. Such inconsistent juggling, however, gets nowhere, and nothing constructive is offered. The fact remains as Lloyd has pointed out that one of the most common polypores in America has not been regularly named and described. Therefore, the name **Trametes subrosea** nom. nov. is proposed.

Classification.

The history of *Fomes roseus* has not been so much in dispute. As far as the writer has been able to determine, the original collection does not exist. The location of the herbarium of Albertini and Schweinitz appears to be unknown. *Fomes roseus* occurs frequently in Europe and is typical in spore and other characters of the plant in America. *Trametes subrosea* is rare in Europe and on that account the question as to which species Albertini and Schweinitz originally had before them cannot logically be raised. Both may become thick, ungulate and stratified or they may be thin and applanate. The species are quite distinct, however. Ready means of distinction in the field are the darker-colored context, and the conspicuous narrow zonate and radiate fibrillose surface of the pileus of *Trametes subrosea.* The context may become reddish brown to brown in very old specimens. The context of the original American specimen in Berkeley's herbarium is almost brown, so that Cooke was practically correct in listing it under "rhabarbarino-ferrugineo." The zonate condition of the pileus is often obscured by a revival of growth during very wet weather so that it often appears soft and smooth. The pores have a tendency to become discolored with age especially when the substratum is about exhausted. Such specimens are often thin and applanate and may lead to the conception that the plant is annual. The pores may be conspicuously stratified in old specimens. Frequently the plant is ungulate. The rather narrow ellipsoid to cylindrical hyaline spore has a constant tendency to be allantoid and quite regularly so in occasional specimens. This condition very readily distinguishes the species from *Fomes roseus,* the spores of which never tend to become allantoid, average broader and are frequently acuminate at one end. In contrast to the normally fibrillose zonate pileus of *Trametes subrosea,* that of *Fomes roseus* is normally smooth without markings, frequently conspicuously sulcate, and may be rimose in very old specimens. The context is constantly of a lighter color in normally developed specimens. The older pores are usually filled with a whitish deposit and are more styptic. The pores may be stratified or not, depending upon the age of the specimen. In America, *Fomes roseus,* as far as known, is confined to coniferous wood. *Trametes subrosea* occurs on both hard woods and conifers and is more

destructive to the heart and sapwood of both living and dead trees than is the case with the less common *Fomes roseus*. The decay caused by both species usually occurs locally at first in large indistinct pockets which later unite with other pockets. The wood within the pockets breaks up into more or less distinct brown or dark brown rectangular blocks. The decay of *T. subrosea* is usually of a darker color and may become somewhat fibrous in some woods.

*Trametes subrosea* may be confused with *T. Feei* Fr. (*T. Sagreeana* (Mont.) Fr.), a common tropical plant originally described from Brazil. The latter has been found in southern Florida, where the former also occurs. The species are distinct on several counts, both as to pileus and spore characters and relation to substrata. There is also slight difference in the character of their decays.

The main distinguishing characters of the above three species may be summarized as follows:

Context shades of pink or rose color.
- *Context* Japan rose to cacao brown or brownish vinaceous (Ridgway).
  - *Pileus* usually thin but sometimes conspicuously stratified when old, normally zonate with radiating appressed fibrils when not obscured with new hyphal growth, brown, brownish pink, silvery gray or black with age; *pores* dark pink to dark rose, small, discolored with age; *spores* narrowly elongate, ellipsoid to cylindric or allantoid, hyaline, gutta not observed, average 6.3 × 2–3 μ; on wood of deciduous and coniferous trees in Europe and America........................ *Trametes subrosea.*
  - *Pileus* thin, smooth, even, velvety, pinkish-brown to black when old; *pores* pink rose, or brownish vinaceous, black with age, minute, smaller than above; *spores* ellipsoid, rarely short cylindric, frequently acuminate at one end, average 6.4 × 3.1 μ; on hard woods in the tropics, in the United States only in southern Florida.. *Trametes Feei.*
- *Context* pale vinaceous pink (Ridgway) constantly of a lighter color than above.
  - *Pileus* thick, distinctly stratified in split section when old, smooth, frequently conspicuously sulcate, pink, brownish-pink, brown to black with age, sometimes rimose or with a slight resinous crust when very old; *pores* light pink or light rose, somewhat brownish with age or when bruised; *spores* broadly elongate, ellipsoid to cylindric never allantoid, hyaline, guttulate, average 8–10 × 2.5–4 μ; found only on coniferous wood in Europe and America.................................. *Fomes roseus.*

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## BUTOMUS UMBELLATUS ON THE ST. LAWRENCE RIVER.

Clarence H. Knowlton.

While collecting plants along the St. Lawrence River at Ste. Angèle de Laval, opposite Three Rivers Quebec, the last day of July, Mr. Edward B. Chamberlain and I were much surprised to find in the swampy land near the shore a striking endogenous plant that neither of us had seen nor heard of before. Good specimens were a meter tall, with an umbel of large pink flowers, veined with darker red. At the base was a short horizontal rootstock with a large cluster of ensiform leaves.

We soon discovered that the plant did not fit the ordinary key to the endogens, for the flower had three colored sepals, three larger petals, *nine* stamens, and six *separate* carpels.

Later investigation at the Gray Herbarium showed us that this handsome plant was *Butomus umbellatus* L. of the small family